

## **Forest Health Strategy Work Group**

July 27, 2004: Third Meeting  
Ramada Inn Airport, Washington Room  
8909 Airport Road  
Spokane, Washington

### **Members Present:**

Pat McElroy, Chair, DNR Staff  
Karen Ripley, Coordinator, DNR Staff  
Vicki Lee, Secretary/Meeting Minutes, DNR Staff  
Mike Blankenship, Ferry County Commissioner  
Rich Fonda, Fire Ecologist, WWU  
Barry Moore, WSU Dept. of Natural Resource Science  
Peter Heide, Washington State Society of American Foresters  
Maurice Williamson, Small Forest Landowner Advisory Committee  
Steve Tveit, Boise Cascade  
John St. Pierre, Confederated Tribes of the Colville Reservation  
Mike Petersen, The Lands Council  
John Mankowski, WA Dept. of Fish and Wildlife  
Ron Shultz, Executive Policy Advisor, Governor's Executive Policy Office  
Bob Gara, Forest Entomologist, UW College of Forest Resources  
Rick Brazell, USDA Forest Service

### **Absent:**

Bruce Lippke, UW College of Forest Resources

### **Guests:**

Elaine O'Neil, UW College of Forest Resources (back up for Bruce Lippke)  
Darrel Johnston, Smoke and Fuel Management, Resource Protection, DNR  
Mark Kahley, Division Manager, Resource Protection, DNR  
Gary Berndt, Southeast Assistant Region Manager, DNR  
Steve McGonigle, Executive Secretary, Washington State Noxious Weed Control Board (by telephone)  
Jeremy Fried, USDA FS, Forest Inventory and Analysis Program, PNW Research Station  
Keith Blatner, WSU  
Larry Mason, UW, Rural Technology Initiative

### **CALL TO ORDER:**

Pat McElroy called the meeting to order at 9:00 a.m. Introductions of the group members, staff and guests were made. A safety briefing was given. McElroy made a motion to review and approve the minutes from the June 16<sup>th</sup> meeting; minutes were approved. Karen Ripley mentioned the Charter was approved and a hard copy was sent by mail. The Brainstorm List from last meeting was reorganized and also mailed out. Ripley went over the agenda and some changes were made. Mark Gray, DNR Resource Protection could not make it, so his presentations on Smoke Management and the National Fire Plan will

be rescheduled for the next meeting on August 18<sup>th</sup>. It was agreed to table the review of the Brainstorm list until later in the afternoon, after everyone was done with his or her presentations.

**Action: Karen will reschedule Mark Gray's Presentations.**

### **Characterizing a Healthy Forest – Rich Fonda, Bob Gara, and Elaine O'Neil**

Rich Fonda went over a one-page handout on the Characteristics of Healthy Versus Unhealthy Pine Forests.

Bob Gara's presentation covered Forest Health: Is it simply in the eye of the beholder?

Gara contrasted high-level management and a high level of bio-diversity goals: when does each approach become susceptible to insect and disease problems. He stated the goals of a public forest are preservation and ecosystem management, and the main forest health concern is protecting public policy. The goals of a private forest are establishment of intensive forestry, and the main forest health concern is protecting investments. Gara spoke of the ecological relationships that control forest insect populations, environmental triggers, and biological responses. He emphasized that fire was a powerful environmental trigger on the forest. He advocated thinning out the firs and favoring the fire resistant ponderosa pine and older Douglas-fir. Then reintroduce fire where feasible and restore the forest structure. Forests that are not thinned have closed crowns, high basal area, and are stagnant. If a 2-4 year drought comes along, this puts the trees out of water balance, which then sets up conditions for a Mountain Pine Beetle (MPB) outbreak. Thinning stagnant ponderosa pine stands prevents MPB infestations. Spacing even 13' between trees breaks the tree-to-tree pattern of MPB attack. The attacking population goes back into a dispersal flight. Thinning and prescribed fires will prevent MPB outbreaks even during drought years. When MPB outbreaks occur in Lodgepole pine, the spreading spot of attacked trees is based on the diameter of the tree. MPB focus their attacks on the biggest trees in the stand. To stop the outbreak you have to thin by diameter, this will cause the MPB to disperse.

Elaine O'Neil gave a presentation on Incorporating Forest Stand Dynamics into a Forest Health Strategy for Eastern Washington. McElroy asked for a general understanding of basal area. O'Neil explained that basal area is the total cross section of tree stems in an area. It is commonly measured in square feet at breast height (4.5' above ground), and is described per acre (or per hectare). Example, 25 large trees can have the same basal area as 200 small trees. O'Neil presented three Forest Health impediments:

- Favoring continuous forest cover and "uneven-aged" management strategies
- Normal forest or full stocking concepts
- Climate impacts

1 She showed a graph simulating tree growth patterns in five the East Cascades habitat types: PP/Pinegrass,  
2 DF Bitterbrush/wheatgrass, DF/Snowberry, DF/Ninebark, and DF/BB/Pinegrass.  
3 Growth limitation factors vary by habitat type resulting in different basal area maxima. Rich sites carry  
4 more basal area. We need to manage to specific conditions without writing the prescription. Describe  
5 standards in a results based framework vs. a prescriptive one.  
6 O'Neil talked about Site Index and Growth Basal Area (GBA). Site index is only one indicator of  
7 growth/carrying capacity, and does not tell us anything about stand productivity and the limits of stand  
8 volume growth as a function of basal area. O'Neil emphasized that trees need nutrients, and fire changes  
9 soil pH. Short-term temperature trends in eastern Washington show 10-year averages are getting warmer,  
10 resulting in earlier spring melt. This shortens moisture availability during summer growing season.  
11 Short-term temperatures are increasing bark beetle populations; we need colder winters. O'Neil indicated  
12 our tendency to blame logging history, fire suppression and grazing for our current health problems,  
13 neglecting the significant influence of climate variability. She showed in a chart, that reducing the  
14 carrying capacity by 15 percent to account for climate change, allows for some growth response time  
15 prior to future stress conditions. The new carrying capacity then allows for designing treatments. Land  
16 managers can make their own decisions regarding stocking thresholds depending on what their site is  
17 telling them. Healthy forests equal diversity in application. One size does not fit all.

## 19 **Discussion**

20 Pete Heide stated that it appears to him our task is to provide information to help guide large scale  
21 planning efforts so that then we can provide the mechanisms so the forest managers are free to apply the  
22 techniques and technology that has been developed. We don't need to look at every acre of forest, but we  
23 need to figure out where we need to provide some treatments in larger areas. We need to look at the  
24 broader picture, understand what managers face, and provide guidance.

26 Mike Peterson pointed out if you had a site with an overstocking of Ponderosa Pine, and they are more  
27 demanding of nutrients than Lodgepole Pine, then hauling off trees does not address the nutrient cycle.

29 McElroy suggests that landowners and property owners need to look at a larger scale of things.

31 Mike Blankenship stated we should keep in mind that whatever our recommendations are we should keep  
32 them flexible. Site specific is the key.

1 McElroy recommends having information available to landowners, both private and public, also have  
2 available technical assistance.

3  
4 Rich Fonda, pointed out that what we are dealing with in the Doug fir zone is: 1) These are man-made  
5 forests, 2) How do we maintain them now in modified condition, 3) We need to focus on stand index and  
6 growth basal area. Natural ecosystems don't respond to averages; we need to respond and manage to  
7 extreme.

8  
9 Williamson commented: Don't look at stocking level, look at flexibility to desired species.

10  
11 McElroy does not intend to develop silvicultural prescriptions for landowners.

12  
13 O'Neil recommends getting better statistics.

14  
15 Bob Gara emphasized we need greater help from extension services; we need to include that in next piece  
16 of legislation.

17  
18 **Eastside Forest Practice Rules and Procedures – Gary Berndt**

19 Gary Berndt talked about the eastside Forest Practice Rules and Procedures associated with timber  
20 removal and prescribed burning, and the liability associated with prescribed burning.

21 Are Forest Practice rules an impediment to managing forests? Short answer is yes, but not unnecessarily  
22 so. People have locked into some of the rules. For example: Riparian zone of a Type III stream. Under  
23 the current Forest Practice Rules on the east slopes of the Cascades, the easy answer for the landowners is  
24 to back off 100 feet on both sides of the stream and perform no management in that zone. Berndt  
25 described a process called Alternate Planning, whereby more specific measurements must be taken of the  
26 Riparian area when specific work is proposed. He also stated they are finding that the conditions that are  
27 maintained in these unmanaged areas along streams are a fire accelerant. Berndt pointed out that Forest  
28 Practices is not proactive process but is reactive.

29  
30 Pete Heide suggested making recommendations that the Forest Practice Rules raise the level of  
31 consideration for those other resource impacts. Our role might be to encourage people, to propose  
32 treatments by some method, to keep them from shying away from any management.

1 Pat McElroy pointed out it is important to recognize how the Forest Practice Rules work. There is a core  
2 zone where a large amount of activities are prohibited, then there is a variable width zone where some can  
3 occur, depending on what you have on the site; but that requires the Forester to go in and actively mark  
4 the trees.

5  
6 Maurice Williamson advised that small landowners are currently working with WDFW, DOE, and DNR  
7 to simplify certain cases of the alternate planning process, starting in eastern Washington. What might be  
8 useful is that the Forest Health panel look at that approach, comment to its effectiveness and see if that  
9 effort can be expanded beyond the Family Forest Landowners.

10  
11 Berndt commented that we have to look at, “What is the desired future overall effectiveness?”

12  
13 McElroy emphasized early impacts vs. long-term payoffs. After riparian function, there are not very good  
14 metrics around what that function is. The dominant contribution of the protected core area is to keep mud  
15 out of the creek, moderate temperatures, and provide large woody debris.

16  
17 Elaine O’Neil added that there are four or five layers of metric in a Riparian Zone, the number of trees,  
18 number of species, basal area, tree size and entry limitations. There are so many variables it is difficult to  
19 simplify and have them concur in an appropriate prescription.

20  
21 Berndt advised that after a decision is made regulatorally to sign off and approve a Forest Practice, or  
22 Alternate Plan, it is subject to public review, TFW review, and appeal.

23  
24 Ripley asked if there was staff available to adequately develop and address alternate plans.

25 **Answer:** Absolutely.

26  
27 McElroy added that we process 7,500 to 9,000 Forest Practice applications a year. We have 20,000 to  
28 90,000 small landowners. There is just not enough money in the world to have enough staff for ID Teams  
29 to go to all these sites. That is why the approach has been to develop templates. If your stand meets the  
30 criteria of one of these templates, then we have devised a prescription.

31  
32 Maurice Williamson advised there are about 50+ templates.

33 **Action: Williamson offered to check on how many.**

1 Mike Blankship stated that small landowners are intimidated just filling out an application; large  
2 landowners are not concerned, as they have staff on hand and are educated and no how to deal with it.  
3 McElroy advised one of the questions asked was do Forest Practice Rules potentially affect Forest Health.  
4 The answer is yes.

5  
6 Berndt described another scenario, stating that Alternate Plans have an especially important role in  
7 eastern Washington after fires, because when fires get into these Riparian zones, it cooks them.

8  
9 McElroy commented that when a fire occurs, if the landowner does not harvest the timber, there is no  
10 required reforestation.

11  
12 Ripley suggested that after fire occurs this would be a great opportunity to offer incentives.

13  
14 Berndt told of one problem the small landowners have is after small hot fires have occurred; they burn so  
15 hot that they sterilize the soil. The Alternate Plan process has been working well where we have had fire.  
16 The problem on larger fires is that according to the FP Board, DNR cannot write our own rules, but may  
17 have a tendency to do the same prescriptions over and over again, almost standardizing the approach.  
18 DNR may have gotten to a place where we don't belong.

19  
20 McElroy commented that fire-killed trees, play an important role along those streams for wildlife and  
21 fisheries.

22  
23 Berndt pointed out that on 90 percent of applications we have a decision to make in 30 days. Therefore  
24 he doesn't think that time delays are an impediment to forest management. It's a challenge when we have  
25 a major event to respond appropriately, and we will call in help to get that done. We place a high priority  
26 on bureaucratically not letting that value just lie there and rot.

27  
28 **Liability Associated with Prescribed Burning – Gary Berndt**

29 Berndt advised we regulate burning like we regulate Forest Practices, prescribed burning requires a  
30 permit from the DNR, and does not relieve liability in any way shape or form. The law says under the  
31 Landowner Contingency Fund if you do an industrial burn, slash burn or whatever it is, you have to have  
32 our DNR's permit. If that fire escapes, regardless of causes, you come under a \$50,000 deductible and  
33 you provide all the resources that are required the remainder of the fire. If the landowner is negligent the

landowner is liable for all fire costs. A lot of landowners have simply given up burning the debris they make because of the liability. The DNR is the regulator on private lands.

Heide stated that there is no cooperative approach to burning on a landscape basis vs. ownership.

McElroy added burning is not so limited by the fire weather conditions; as it is the smoke management conditions.

Darrel Johnston addressed the smoke management approach on burning. All burns over 100 tons need smoke management approval. A 10 X 10 foot pile equals approximately ten tons. Most burns are permitted one day at a time. Due to weather conditions, fire danger, and the goals of the land manager, permission for multiple day burns is sometimes desired, but rarely can be granted.

Ron Shultz stated that it could be a recommendation from this group to look at a region where there is a Forest Health problem identified, go in with an ID Team, and actively approach the landowners and say we want to do a Forest Health Plan that addresses wildlife concerns and contacts the Forest Health through a harvest strategy. Learn what smaller landowners want, and then put that type of plan together. If you follow the landowners concerns about the permit side of it, you'll have a more charismatic approach.

Berndt advised Smoke Management and Prescribed Fire are two separate issues.

Johnston described on the Smoke Management Plan. In 1991, Washington State enacted the Clean Air Act. In the Clean Air Act, DNR has the responsibility of Silvicultural burning and addressing health issues and smoke. We developed a Smoke Management Plan. In that plan it says we are to issue burn permits. Any permit that is 100 tons or greater must have approval from Smoke Management in Olympia.

Berndt explained smoke is a large issue on the eastside. When it settles in the valleys you can't even see to drive. Our message to people seeks understanding that a little smoke in April and May, trades off for a lot in August.

Rick Brazil commented that he wanted to burn some of his land last year and went to DNR, and they told him to go to Ecology because it was mostly pasture, but there was a little bit of thinned woods mixed in.

1 They wrote him a permit and he burned his seven acres trying to keep his smoke off the neighbors. Later  
2 his neighbor did the same thing. If we would have applied together and did it at the same time, it would  
3 have been easier.

4  
5 Berndt clarified agricultural burning and land clearing burning, are not DNR permits. They are DOE.

6  
7 McElroy explained the default situation in Washington is no burning; That is the preferred outcome,  
8 except for Silviculture. There is a definite governing law particularly for Silviculture that is designed to  
9 encourage Silvicultural burning. (RCW 76.04)

10  
11 Ripley stated there is also the smoke issue. EPA defined that smoke is bad for people's health. You have  
12 to have the right weather conditions for the smoke to disperse.

13  
14 McElroy told of another aspect. There are Class I areas that can be seen from or effect any national parks  
15 or wilderness areas.

16  
17 Johnston stated that the Class I areas cover a lot of land, so to address this from June 15 through October  
18 15 there is no weekend burning allowed. It's really a visibility issue not a health issue.

19 The Forest Health window for burning is very narrow. The State of Washington and DOE are going to  
20 have to do an Implementation Plan, to address Class I areas. It will likely become more restrictive.

21  
22 Rich Fonda recommended that the Forest Health window be broadened for burning.

23  
24 Johnston pointed out the other side of the burning issue is the health issue.

25  
26 John St. Pierre advocated taking the people out and showing them the problems, have a "teachable  
27 moment", and let them make the decisions on what they want to do, as they have to live there.

28  
29 A suggestion was made to set aside any over lapping regulations, or conflicting values that we might not  
30 be able to do anything about and maybe our report can highlight the educational opportunities, if we can't  
31 come up with a solution.

32  
33 Mark Kahley cited an issue DNR had last year of a prescribed burn in the Okanogan Wenatchee National  
34 Forest NW of Twisp and Winthrop, the forecast turned out to be not what happened with the weather, the

1 smoke settled into the bowl which is Winthrop and Twisp, resulting in a massive smoke complaint. It's a  
2 political problem. Do people care if they don't burn it in April or May because it's going to be really,  
3 really smoky in August? No, because they are worried about April and May. People would rather have a  
4 couple months of smoke starting in August from wildfires, than smoke nine months out of the year. Can't  
5 please the public and it's a problem.

6  
7 Rich Fonda stated that if you were to go back and burn that same area in five years, you wouldn't have  
8 that much smoke and not as many fires in that area.

9  
10 Kahley maintained we have a 50-year backlog of first time through prescribed burns, or fires.

11  
12 Maurice Williamson went back to the impediments of the Forest Practice Rules. Williamson suggested  
13 that some noodling be done perhaps in a smaller group regarding:

- 14 • What's good and bad, even-age management?
- 15 • 150 trees per acre, is that what we want to look at for stocking levels?
- 16 • More specific definition on green recruit tree environment

17  
18 McElroy recapped some of the discussion:

- 19 1. Williamson would like a small work group to take a look at the Forest Practice Rule impediments
- 20 2. Mark Gray to come back and be present at August 18<sup>th</sup> meeting in Seattle to discuss National Fire  
21 Plan and Smoke Management.

22  
23 John Mankowski expressed discouragement at talking about all the problems. Isn't there stuff we can do  
24 now? Not the latest headaches. Have we done all we can do under current rules? Are we doing a good  
25 thing? Show me.

26  
27 Berndt pointed out that the L.T. Murray forest is an example of good work.

28  
29 Ripley responded by saying part of the problem is we haven't looked at the forest conditions and  
30 locations. One of the presentations this afternoon is how to build a map and analyze where our  
31 opportunities are.

32  
33 McElroy advised one of the things we are charged with is looking at the barriers and suggesting ways to  
34 overcoming them.

1 Mike Blankenship pointed out that it seems like we have an educational piece for the public that we  
2 haven't talked about yet, that we might want to table for later on.  
3 Keith Blatner acknowledged that the liability issue came up, and there have been some changes in the  
4 liability law in the southeast and mid-south, and they have been favorable to the use of broadcast burning.  
5 Blatner thinks we ought to look at those in the Washington context.  
6

7 **Extreme Hazard Law and Practices – Darrel Johnston (handouts: Washington State's Hazard**  
8 **Abatement and Extreme Fire Hazard Laws; and hard copy of presentation)**

9 McElroy described prior to the 70's the Slash Liability Law stated if you created slash, if a fire started in  
10 or spread through your slash (before that slash was abated), you were responsible for all costs. DNR had  
11 a very elaborate program where forest practice foresters were predominantly working on reforestation.  
12 They would go out and transect slash to determine whether or not it actually met the criteria for being  
13 abated. The consequence of that was a real change in management attitude, which went all the way to  
14 legislation, which led to two things. 1) The narrowing of the definition of what constitutes slash and  
15 liability; and what kind of hazards needed to be abated by law 2) The creation of the Landowner  
16 Contingency Fund (which you heard about earlier). The Contingency Fund became an insurance policy  
17 paid for by landowners through an assessment. So not all landowners had to be responsible for all fires  
18 created by slash. The result is the abatement law that is on the books today.  
19

20 Johnston went over the purpose of the fire hazard abatement laws, and gave some key definitions for  
21 forest debris, additional fire hazard; extreme fire hazard and DNR protected lands. (See handout). He  
22 gave an overview of the Hazard Abatement Laws explaining they consist of two RCW's and six WAC's.  
23 The laws and rules provide that:

- 24 • Forest debris must be disposed of concurrently with
  - 25 ❖ Land clearing operations
  - 26 ❖ Right of way construction
- 27 • Landowner with an "additional fire hazard"
  - 28 ❖ Must take reasonable measures to reduce the risk of the fire spreading from the area
  - 29 ❖ May abate the hazard
  - 30 ❖ Is liable for fire suppression costs only when negligent
- 31 • Landowner with an "extreme hazard"
  - 32 ❖ Must abate the hazard
  - 33 ❖ Is liable for any fire suppression costs (negligent or non-negligent)
- 34 • Liability exists when "extreme hazard" is created

- ❖ No notice required
- If “extreme hazard” is not abated
  - ❖ DNR can abate the hazard
  - ❖ Landowner can be billed two times the cost of abatement
  - ❖ Cost of abatement becomes a lien on the property

Johnston advised the RCW’s and WAC’s define “extreme hazard” areas, and that the DNR can specify other areas of “extreme hazard” not identified in the law. He instructed that this requires written notice to the landowner. Extreme Hazard Areas are any “additional fire hazard” that is:

- Within 100 feet of state and federal highways, county roads, railroads, and other roads with 75 or more vehicles trips per week to geographic features of significant public interest
- Within 200 feet (up to 500 feet) of public campgrounds, school grounds, concentrated public use, residences, and other buildings valued at \$1,000 that are not owned by the landowner
- 800 acres of continuous additional fire hazard

Johnston also spoke about compliance:

- DNR identifies extreme hazard area through
  - ❖ Fire staff on patrol
  - ❖ Communication with DNR forest practice staff
  - ❖ Complaints from neighbors and others
  - ❖ Requests from landowners
- Majority of landowners comply without enforcement
- For those that don’t
  - ❖ DNR notifies landowner of law and associated liability
  - ❖ To date, DNR has not needed to abate and bill as allowed under the law

## **Discussion**

McElroy stated it’s the assumption that if you are not doing anything on a landscape, then you don’t create liability. If you do then you are creating liability. In fact the practice of forestry has moved beyond this law. We are not creating slash like we used to.

Maurice Williamson pointed out that Idaho and Montana have a slash/abatement program. He would like to see their model vs. Washington State’s.

Mark Kahley advised most large fires occur on untreated lands.

1 McElroy recalled one fire on the Olympic Peninsula that was post harvest pile burning that got out of  
2 hand. There were five origins. Winds caught them and burned through the logged areas.

3  
4 Pete Heide would like to see a law that holds people liable for fires that spread off unmanaged land.  
5 Change the laws to make it an incentive to manage and treat lands.

6  
7 John St. Pierre agreed with Heide, that the law is counterproductive, because doing nothing is not right.

8  
9 Bob Gara explained that the law was written in the late 60's or early 70's and amended in 1986.

10  
11 Williamson stated there is a conflict between management and slash/abatement. For example if a small  
12 landowner needs to pre-commercially thin, then he is faced with a fire hazard.

13  
14 Mike Peterson suggested an incentive to take away the liability and adjust the property taxes. The taxes  
15 on land nearest homes are highest, yet those areas need clearing the most.

16  
17 **Noxious Weed Laws and Program (RCW 17-4, 17-6, 17-10 and WAC 16.750) – Steve McGonigle**  
18 **(Brochure Handouts: Washington State Noxious Weed List 2004; Noxious Weeds in Washington**  
19 **State, an Introduction to Washington's Weed Laws)**

20 McGonigle started out by talking about the modern state weed law in the State of Washington,  
21 RCW 17-10, and how it mandates the control of many weed species. RCW 17-10 holds landowners,  
22 including counties and state land agencies, responsible for controlling weeds on their property. Each year  
23 the list of noxious weeds is updated, and can be found in WAC 16-750. This list encompasses three  
24 different categories of weeds.

- 25 • Class A weeds are non-native species with a limited distribution in the state. Therefore eradication of  
26 all Class A weeds is required by state law.
- 27 • Class B weeds are non-native species that are established in some regions of Washington, but are of  
28 limited distribution or not present in other regions of the state. In regions where a Class B is  
29 unrecorded or of limited distribution, prevention of seed production is required. In Regions where a  
30 Class B species is already abundant or widespread, control is a local option.
- 31 • Class C weeds are already widely established in Washington or are of special interest to the state's  
32 agricultural industry. Placement on the state noxious weed list allows counties to enforce control if  
33 locally desired.

McGonigle advised that Washington's weed program is coordinated through the Washington State Noxious Weed Control Board; which has five appointed members who meet six times a year. RCW 17-10 allows the weed board to impose financial penalties to those who do not comply with the law. County weed boards are authorized to make agreements with landowners. Funding of local programs is either through a weed assessment on lands or an appropriation from the county general fund. He went on to say Washington Department of Agriculture plays a role in the state weed program by:

- Enforcing WAC's and RCW's in counties without activated weed boards.
- Negotiation and ruling in intercounty disputes, right-of- ways, etc.

## Discussion

Williamson asked, "On a scale from 1-10 how have the counties done? **Answer:** Some have done a bang up job, others we need to have a serious talk with. On a scale from 1-10 statewide average is a 7 - 7.5."

McElroy asked if that measure of success refers to activity level or percent of keeping the spread of these noxious weeds from occurring. **Answer:** Both. There is good work being done, but there is more room for progress.

Heide asked if counties were more successful if they had economical, agricultural producers on the board. **Answer:** No, it is a requirement that four of five board members be agricultural producers. A county's success depends on the funding level and effectiveness.

McElroy asked, if you had to make a suggestion on what changes would have to be made to increase the effectiveness of curtailing the introductional spread of noxious weeds, what would you say your top two or three things would be? **Answer:** 1) We would like to see the sale of noxious weeds not allowed, 2) We would like to see state properties be a shining example throughout the state, in that you would control noxious weeds.

Ripley pointed out that McGonigle mentioned the tool of entering into agreements with landowners that you did not have to require immediate eradication, you could develop a plan to come into compliance overtime. This could be a really important tool in negotiations with landowners. **Answer:** Yes, I see it that way.

Someone asked along those lines are there cost share programs or similar programs to help people with an extremely expensive fix. **Answer:** Yes, some counties have cost share programs and grants to help. The money comes from a variety of places.

McElroy added that there is a national fund dealing with invasive species generally, and I'm assuming that most of the noxious weeds are really invasive. Is your program tied to the national effort of dealing with invasive species? **Answer:** We are tied to the national efforts as much as possible. In February we celebrate National Weed Awareness Week.

McElroy collectively sees this as a potential a model for Forest Health operations. The fundamental fact is there is a landowner obligation to control these noxious weeds; there is a state role in identifying those weeds that are considered noxious.

Heide indicated there is a provision through the laws for a relationship with federal lands, are you familiar with that? **Answer:** Yes, we are supposed to work with them and give them help and assistance.

However, we are only 2.4 people statewide and don't have enough time or energy to do that. We have no authority over the federal lands.

**Balancing Costs and Outcomes of Fire Hazard Reduction Efforts – Dr. Jeremy Fried (Handouts: PNW Science Update June 2004 Issue; Modeling Opportunities and Feasibility of Siting Wood-Fired Electrical Generating Facilities to Facilitate Landscape-Scale Fuel Treatment with FIA BioSum; Fuel Treatment at the Wildland-Urban Interface, Common Concerns in Diverse Regions; Focus on Wildfire, The Right Tools: Managing for Fire Using FIA Inventory Data; Small Diameter Timber Alchemy: Can Utilization Pay the Way Towards Fire Resistant Forests?; and Estimating Contingent Values for Protection from Wildland Fire Using a Two-Stage Decision Framework)**

Fried talked about the Forestry Inventory and Analysis (FIA) Biomass Summarization "BioSum" model. It is a system of computer models set up to work together to answer questions like: How much biomass is out there? Could it be utilized? At what costs or earnings? How much area could be treated? Would management activities reduce severe fire behavior? Where would be the best sites to install utilization facilities? BioSum has been applied now in several large landscapes. Fried shared results and parameters used in two major analysis projects (Arizona & New Mexico and Oregon & California). These projects cover about 1/3 of the west, covering a good spectrum of forest productivity. Basic forestry information came from a variety of inventory plots at less than 3.1 to 3.4 miles density (approx 1 plot per 7200 acres), across all landowners. Wilderness areas and national parks were excluded. These types of analyses

might be useful in Washington State to identify forest conditions, simulate treatment options, assess the feasibility of fuel treatments, and analyze the possible locations for biomass or other wood processing plants. Fried described how small variations in treatment parameters made large differences in the cost/earning of the effort and the alteration of fire behavior. For example, when larger trees are removed, there is more potential income from the log, more crown biomass that requires disposal, and a larger disruption of the fire connectivity of the stand. Two main prescription approaches were considered for Oregon and California (21 million acres): 1) Crown–fuel reduction (thinning across all tree sizes, with emphasis on removing small trees) and 2) Ladder-fuel reduction (thinning from below with emphasis on removing small trees and underbrush and reducing the density of tree crowns so if fire does reach them it will be unlikely to carry through the whole stand). Resulting fuels were treated. Success of the treatments was determined by evaluating torching index (TI) (an indicator of the wind speed at which fire moves from the ground into tree tops) and crowning index (CI) (an indicator of the wind speed at which fire will move from crown to crown). Applications of the management prescriptions achieved an 85 percent TI at <15 m.p.h. 6.8 of 21 million acres in OR and CA (but only .5 of 36 million acres in AZ and NM) could be effectively treated without subsidy. Net costs (under the constraints as modeled) are approximately nine billion dollars in OR and CA. Significant biomass was recovered. Several potential sites for utilization facilities were identified. Biomass for power plants is most likely to pay for its extraction when harvest and transportation costs are low. Biomass plants are expensive to build. They require emission control to meet air quality standards and must be connected to the power grid. A long-term fuel supply should be available in the area. The size of the biomass plant determines the cost of the energy it sells, therefore the amount they can pay for fuel. A fifty megawatt biomass plant produces electricity at 4.8¢/ kwh, and pays approximately \$18/ton for fuel. Five megawatt plants charge 9.5¢/ kwh.

#### **Economics of Forest Health for Family Forest Landowners in Eastern Washington – Elaine O’Neil**

O’Neil pointed out some of the challenges and opportunities that small landowners face. The timing, prescription, and frequency of thinning activities have important consequences for small landowners due to the costs of the activity and future returns. O’Neil showed a chart depicting meeting biological and financial goals simultaneously. She described several case studies and showed metrics comparing the financial and biological outcomes of different thinning methods.

Gara pointed out that you thin from above or below, based on what type of threat is present and what kind of insect you are dealing with.

**Other Economic Considerations – Larry Mason (Handout mailed to work group members:  
“Investigation of Alternative Strategies for Design, Layout and Administration of Fuel Removal  
Projects” July 2003).**

Mason spoke about market and non-market values of fuel reduction. Fuel reduction activities are needed because of wildfires, habitat losses, post burn regeneration failures, opportunities to restore before fire. Fuel reduction activities remove excess trees and ladder fuels to reduce risk of catastrophic wildfire. Policy decisions are very politically charged. People need to get a common understanding about what the present condition is. This will give us a better understanding of what the level of risk is and how it is distributed. Then we can think about costs and the benefits. By using the best available science and technology, we can inform decision makers of the trade-offs. The software Mason uses is the Landscape Management System, Forest Vegetation Simulator, and Fire and Fuels Extension. This project identified some trade-offs: fire risk, economics, wildlife habitat, carbon (smoke and atmosphere), and CoGen potential of action and no action. Data came from Continuous Vegetation Survey (1.7 mile plot density) for the Fremont and Colville National Forests. Fire risk was evaluated via “crowning index,” 20 feet off the ground at a 70-degree temperature. Fire risks was divided into three categories: 1) low fire risk = >50 m.p.h.; 2) moderate risk = 25-50m.p.h.; 3) high risk = <25 m.p.h. So, in the highest risk areas, winds less than 25 m.p.h. winds would cause a crowning fire. This allowed examination of the risk distribution across the landscape, and areas of concern could be prioritized. Approximately 1.3 million acres are moderate to high risk on the two forests. Mason showed six management alternatives for the sites: a) removing trees less than or equal to nine inches diameter; b) removing 50 percent of the basal area; c) leaving a target of 45 square ft/acre basal area of ponderosa pine and western larch; d) removing twelve inches and above (high grade); e) wildfire; and f) no action. Stands were grown for 30 years and changes in fire risk (crowning index) evaluated. To estimate the costs of various activities, they conducted 71 interviews. They ran different estimates of harvest cost, resulting in two analyses, one high and one low. Removal of small diameter fuels is expensive; the value of small logs may be less than the harvest and haul charges. However there are other non-market values of wildfire risk reduction that should be considered:

- Exposure to liability – firefighting costs. If the fire fighting costs are \$1,000 per acre, discount rate is 5%, and most of the high hazard acres will burn within 30 years and the moderate hazard areas will burn within 60 years, then your liability exposure today is \$481/acre on high hazard areas and \$231/acre on moderate hazard areas.
- Actual firefighting costs > \$1,100/acre
- Timber losses on FNF and ONF \$1,605/acre or less cnv value of not harvesting

1 Mason stated one of their goals was to produce something simple that regular people can understand. The  
2 losses that were avoided are in full report. If you take the FNF and ONF there are 1,307,677 acres in high  
3 and moderate risk, how do we value habitat lost in the fire, what is the cost of carbon released into the  
4 atmosphere, value of impacts from erosion and sediments. No actions have substantial costs. There is a  
5 value for marketing small diameter logs, are they a liability or asset?

6  
7 Williamson agreed with Larry, but need consistency in advising thresholds, 8m.p.h., 25 m.p.h.?  
8

9 Fonda asserted the state has to come up with some money; the forest can't pay for it all. Money spent  
10 today will save dollars in the future.  
11

12 McElroy agreed with Fonda to make a recommendation on how work is to be done.  
13

14 Mason suggested putting money aside for later.  
15

16 Brazil pointed out that the Forest Service has a brush disposal fund.  
17

18 McElroy stipulated we need to look at whatever system we do, it has to make sense to the landowner, and  
19 have some incentives to motivate. Then use that information and evaluate the three laws (76.06 Extreme  
20 Hazard, Noxious Weeds), have a discussion about regulatory models and how we move towards the task  
21 ahead.  
22

23 Heide suggested if moving on we need to put these ideas to pen and paper.  
24

25 McElroy agreed about listing ideas.

- 26 1. One of the key items is to have a realistic conversation about incentives.  
27 2. What motivates people to do things?  
28 3. Are there parts of the model we are interested in?  
29 4. Somebody needs to identify and describe the early detection of problems before they emerge.  
30 5. Somebody needs to look at zoning, the Forest Practice rules and changes.  
31

32 Heide suggested gathering information and putting it in the strategic plan. Also taking a comprehensive  
33 look at what the Forest Health issues are. It may strengthen the State's case, we are doing this for state  
34 and private lands, would like to do this on federal land. Address it on all landowners.

1 Peterson pointed out we need to prioritize where people should go to do these treatments. What federal  
2 lands are adjacent to private/state lands.

3  
4 Williamson expressed an opposing view: need to consider all lands to support infrastructure.

5  
6 McElroy proposed that Karen and he would work on the thoughts and how to structure further discussion  
7 on this.

8  
9 John St. Pierre agreed with Karen to break up into map geography and precipitation of the State of  
10 Washington.

11  
12 Ripley would like to draft an outline of the Strategic Plan.

13  
14 The meeting adjourned at 4:42 pm.

15  
16 The next meeting will be 9:00 a.m. to 4:30 p.m., Wednesday, August 18, 2004, in Seattle, Washington at  
17 the University of Washington, at the Hub, in Room 108. Parking will be available in the Paddelford  
18 parking lot. Instructions will follow.